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CYPRAEIDAE FROM CHRISTMAS, PALMYRA, WASHINGTON, AND FANNING ISLANDS

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Christmas, Palmyra, Washington, and Fanning Islands are situated in the north equatorial region of the Pacific Ocean. This short chain of atolls has a northwest-southeast trend and is somewhat parallel with the Hawaiian group, but about one thousand miles south of the latter and in close proximity to the equator.

Of the four islands Christmas is the most eastern and also nearest the equator, being 1° 57′ N. Lat. and 157° 27′ W. Long. Palmyra is the most northern and western with a position of 5° 49′ 4″ N. Lat. and approximately 162° 11′ 30″ W. Long. Fanning Island lies about 145 miles northwest of Christmas Island in latitude 30° 51′ 25″, and 66 miles northwest of Fanning is Washington Island with Palmyra 126 miles to the northwest of it.

Very little information regarding this group of islands was available until recent times, and it has only been within the past few years that efforts have been made to carry out comprehensive scientific investigations of these typical mid-Pacific atolls.

The earliest contribution to the biology of the islands of this group was made in 1877 by Dr. Thomas H. Streets and Dr. William H. Jones, surgeons in the United States Navy. Their systematic report is based on material collected during a survey of the islands of the North Pacific by the United States ship *Portsmouth* in 1873–74.[1] It records 13 species of plants, 13 of birds, 36 of fishes, and 10 of crustaceans collected at Christmas, Palmyra,

[1] Streets, Thomas H., *Contributions to the Natural History of the Hawaiian and Fanning Islands and Lower California,* Bull. U. S. Nat. Mus., No. 7, 1877.

Washington, and Fanning Islands. That a larger collection of invertebrate fauna was made at this time is indicated by Dr. Streets when he says, "Excepting the crustaceans, the invertebrate portion of the collection is excluded from this bulletin" (footnote, p. 7).

The purpose of this paper is to record cowries from the waters about these islands, and to supplement and extend knowledge of the distribution of the family Cypraeidae in the Pacific. The records are based on specimens collected in 1924 by the *Whippoorwill* expedition from the Bernice P. Bishop Museum, Honolulu, Hawaii, and upon specimens from Palmyra in the author's collection.

A total of twenty-six species is represented. Of this number all but six have also been reported from Hawaii.[2] Apparently the most common species of cowries from these islands are *Cypraea moneta* Linnaeus, *Cypraea intermedia* Kiener, and *Cypraea caput-serpentis,* Linnaeus.

Cypraea annulus Linnaeus. Syst. Nat., p. 1179, 1767.

Cypraea arenosa Gray. Zool. Jour., i. p. 147, pl. 7, 12, f. 6, 1824.

Cypraea caput-serpentis Linnaeus. Syst. Nat., p. 1175, 1767.

Cypraea carneola Linnaeus. Syst. Nat., p. 1174, 1767. The specimens in the collections are uniformly small. This may be a racial character.

Cypraea childreni Gray. Zool. Journal, vol. i, p. 518, 1824.

Cypraea cicercula Linnaeus. Syst. Nat., p. 1181, 1767.

Cypraea cruenta Gmelin. Syst. Nat., p. 3420, 1790.

Cypraea erosa Linnaeus. Syst. Nat., p. 1179, 1767. The shells of this species are of good size, and much lighter in the dorsal coloration than shells from nearby Samoa and Fiji.

Cypraea fimbriata Gmelin. Syst. Nat., p. 3420, 1790.

Cypraea helvola Linnaeus. Syst. Nat., p. 1180, 1767. This common and widely distributed Indo-Pacific species varies geographically in the intensity of its dorsal and ventral colorations. The variety from these islands is characterized by its deep orange base and margins.

Cypraea intermedia Gray. Zool. Jour., i, p. 77, 1824.

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[2] Ingram, William M., *The Family Cypraeidae in the Hawaiian Islands,* NAUTILUS, Jan., 1937.

Cypraea irrorata Solander. Zool. Jour., iv, p. 80, 1828.

Cypraea isabella Linnaeus. Syst. Nat., p. 1177, 1767. This species is not uncommon. The dorsal surface is very light, and in most cases the characteristic black flecks on the dorsal surface are much reduced and light brown in color. The extremities are deep orange.

Cypraea lynx Linnaeus. Syst. Nat., p. 1176, 1767.

Cypraea mauritiana Linnaeus. Syst. Nat., 1176, 1767.

Cypraea moneta Linnaeus. Syst. Nat., p. 1178, 1767.

Cypraea nucleus Linnaeus. Syst. Nat., p. 1181, 1767.

Cypraea poraria Linnaeus. Syst. Nat., p. 1180, 1767.

Cypraea punctulata Gmelin. Syst. Nat., p. 3404, 1790.

Cypraea reticulata Martyn. Universal Conch., pl. 15, 1782.

Cypraea scurra Chemnitz. Conch., vol. x, pl. 144, p. 103, f. 1338, 1788.

Cypraea talpa Linnaeus. Syst. Nat., p. 1174, 1767.

Cypraea testudinaria Linnaeus. Syst. Nat., p. 1173, 1767.

Cypraea tigris Linnaeus. Syst. Nat., p. 1176, 1767. The shells from these islands are small compared with the large, heavy shells from Tongatabu.

Cypraea vitellus Linnaeus. Syst. Nat., p. 1176, 1767.

A NEW WEST AMERICAN CONE

BY PAUL BARTSCH

CONUS SIGNAE, new species. Plate 2, figure 8.

1849. *Conus cumingi* Reeve, Conch. Icon. Suppl. pl. 8, f. 277. Not *Conus cumingi* Reeve, *ibid.*, suppl. pl. 3, f. 282.

Shell biconic, with the spire very depressed and concave. The spire is brownish orange, blotched and variegated with white, while the body whorl is roseate with brownish suffusions and streaks of flesh color or white. A faint median pale zone is present. Nuclear whorls questionable. The shoulder of the whorls with a rounded thread at the periphery, crossed by rather strong, protractively curved lines of growth and numerous, very fine spiral lirations. The last whorl bears 20 or more slender spiral threads, which grow successively weaker from the base posteriorly. The entire surface of the shell is marked by fine lines of growth and slender spiral lirations, with much finer, very wavy spiral striations, which give to the surface a beautiful silky texture; interior white with a rosy flush.